

WHAT IS CLAIMED IS:

1. A data communication control apparatus for controlling data communication among a plurality of connected communication terminals, comprising:
  - 5 connecting means for connecting a general-purpose terminal;
  - image generating means for generating image data that conforms to the general-purpose terminal;
  - image distributing means for distributing the image data, which has been generated by said image generating means, to the general-purpose terminal via said connecting means;
  - 10 audio converting means for converting format of audio data in order that the audio data may be communicated mutually between the general-purpose terminal and the plurality of communication terminals;
  - 15 and
  - audio distributing means for distributing the audio data, whose format has been converted by said audio converting means, to the communication terminals and/or general-purpose terminal.
  - 20
2. The apparatus according to claim 1, wherein said audio distributing means distributes audio data, which has entered from the general-purpose terminal and whose format has been converted by said audio converting means, to the communication terminals, and distributes
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audio data, which has entered from the communication terminals and whose format has been converted by said audio converting means, to the general-purpose terminal.

3. The apparatus according to claim 1, wherein said  
5 audio converting means converts a voice communication protocol in the audio data.

4. The apparatus according to claim 3, wherein a voice communication protocol that corresponds to the general-purpose terminal makes real-time communication possible.

10 5. The apparatus according to claim 4, wherein the voice communication protocol that corresponds to the general-purpose terminal is the Internet Protocol.

6. The apparatus according to claim 5, wherein the voice communication protocol that corresponds to the  
15 general-purpose terminal is the Real-Time Transfer Protocol.

7. The apparatus according to claim 1, further comprising:

voice recognition means for recognizing voice data  
20 that has entered from the communication terminals and generating text data based upon this recognition; and

data distributing means for distributing the text data to the general-purpose terminal.

8. The apparatus according to claim 7, further  
25 comprising voice synthesizing means for synthesizing voice data based upon text data that has entered from

the general-purpose terminal;

wherein said audio distributing means distributes voice data, which has been synthesized by said voice synthesizing means, to the communication terminals.

5 9. The apparatus according to claim 1, wherein said connecting means connects the general-purpose terminal by the Internet Protocol.

10. The apparatus according to claim 1, wherein said image generating means generates hypertext data.

10 11. The apparatus according to claim 10, wherein said image generating means generates hypertext data, including image data, based upon image data that has entered from the communication terminals.

12. The apparatus according to claim 11, wherein said  
15 image generating means generates HTML-format hypertext data.

13. The apparatus according to claim 12, wherein said image distributing means is an HTTP server.

14. The apparatus according to claim 13, wherein said  
20 general-purpose terminal internally incorporates a WWW browser.

15. The apparatus according to claim 1, wherein said communication terminals are dedicated videoconferencing terminals in compliance with any of ITU-T  
25 Recommendations H.320, H.323 and H.324.

16. The apparatus according to claim 15, wherein the

data communication control apparatus is in compliance with ITU-T Recommendations H.231 and H.243.

17. The apparatus according to claim 1, wherein said image generating means generates still-picture data from  
5 moving-picture data.

18. The apparatus according to claim 17, wherein said image generating means generates still-picture data based upon a command from the general-purpose terminal.

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10 ~~19.~~ A data communication control apparatus for controlling data communication among a plurality of connected communication terminals, comprising:

connecting means for connecting a general-purpose terminal;

15 image generating means for generating image data that conforms to the general-purpose terminal;

image distributing means for distributing the image data, which has been generated by said image generating means, to the general-purpose terminal via said connecting means;

20 voice recognition means for recognizing voice data that has entered from the communication terminals and generating text data based upon this recognition; and

data distributing means for distributing the text data to the general-purpose terminal.

25 20. The apparatus according to claim 19, wherein said data distributing means distributes the text data in

real-time.

21. The apparatus according to claim 19, wherein said data distributing means distributes text data, which has entered from the general-purpose terminal, to the  
5 communication terminals.

22. The apparatus according to claim 19, wherein said voice recognition means generates text-chat data.

23. The apparatus according to claim 22, wherein said general-purpose terminal has a data conferencing  
10 function based upon text-chat data.

24. The apparatus according to claim 23, wherein the communication terminals have a data conferencing function based upon text-chat data.

25. The apparatus according to claim 22, wherein the  
15 text-chat data is in compliance with ITU-T Recommendation T.120.

26. The apparatus according to claim 19, wherein said connecting means connects the general-purpose terminal by the Internet Protocol.

20 27. The apparatus according to claim 26, wherein said image generating means generates HTML-format hypertext data, including image data, based upon image data that has entered from the communication terminals.

28. The apparatus according to claim 27, wherein said  
25 image distributing means is an HTTP server.

29. The apparatus according to claim 19, wherein said

communication terminals are dedicated videoconferencing terminals in compliance with any of ITU-T Recommendations H.320, H.323 and H.324.

30. The apparatus according to claim 29, wherein the  
5 data communication control apparatus is in compliance with ITU-T Recommendations H.231 and H.243.

~~31.~~ A data communication control apparatus for controlling data communication among a plurality of connected communication terminals, comprising:

10 connecting means for connecting a general-purpose terminal;

image generating means for generating image data that conforms to the general-purpose terminal;

15 image distributing means for distributing the image data, which has been generated by said image generating means, to the general-purpose terminal via said connecting means;

voice recognition means for recognizing first voice data that has entered from the communication terminals  
20 and generating text data based upon this recognition;

data distributing means for distributing the text data to the general-purpose terminal;

voice synthesizing means for synthesizing second voice data based upon text data that has entered from  
25 the general-purpose terminal; and

audio distributing means for distributing the

second voice data to the communication terminals.

32. The apparatus according to claim 31, wherein the general-purpose terminal has a data conferencing function based upon text-chat data.

5 33. The apparatus according to claim 32, wherein the text-chat data is in compliance with ITU-T Recommendation T.120.

34. The apparatus according to claim 31, wherein said connecting means connects the general-purpose terminal  
10 by the Internet Protocol.

35. The apparatus according to claim 34, wherein said image generating means generates HTML-format hypertext data, including image data, based upon image data that has entered from the communication terminals.

15 36. The apparatus according to claim 35, wherein said image distributing means is an HTTP server.

37. The apparatus according to claim 19, wherein said communication terminals are dedicated videoconferencing terminals in compliance with any of ITU-T  
20 Recommendations H.320, H.323 and H.324.

38. The apparatus according to claim 37, wherein the data communication control apparatus is in compliance with ITU-T Recommendations H.231 and H.243.

~~39.~~ A control method in a data communication control  
25 apparatus for controlling data communication between a connected communication terminal and general-purpose

terminal, comprising:

an image generating step of generating image data that conforms to the general-purpose terminal;

an image distributing step of distributing the  
5 image data, which has been generated at said image generating step, to the general-purpose terminal;

a first audio distributing step of converting  
format of audio data that has entered from the general-  
purpose terminal and distributing the audio data to the  
10 communication terminal; and

a second audio distributing step of converting  
format of audio data that has entered from the  
communication terminal and distributing the audio data  
to the general-purpose terminal.

40. A control method in a data communication control  
apparatus for controlling data communication between a  
connected communication terminal and general-purpose  
terminal, comprising:

an image generating step of generating image data  
20 that conforms to the general-purpose terminal;

an image distributing step of distributing the  
image data, which has been generated at said image  
generating step, to the general-purpose terminal;

a voice recognition step of recognizing voice data  
25 that has entered from the communication terminal and  
generating text data based upon this recognition; and



a data distributing step of distributing the text data to the general-purpose terminal.

41. A control method in a data communication control apparatus for controlling data communication between a  
5 connected communication terminal and general-purpose terminal, comprising:

an image generating step of generating image data that conforms to the general-purpose terminal;

an image distributing step of distributing the  
10 image data, which has been generated at said image generating step, to the general-purpose terminal;

a voice recognition step of recognizing first voice data that has entered from the communication terminal and generating text data based upon this recognition;

15 a data distributing step of distributing the text data to the general-purpose terminal;

a voice synthesizing step of synthesizing second voice data based upon text data that has entered from the general-purpose terminal; and

20 an audio distributing step of distributing the second voice data to the communication terminal.

42. A data communication system in which a plurality of communication terminals are connected via a data communication control apparatus and data communication  
25 is performed among said plurality of communication terminals, wherein said data communication control

apparatus comprises:

connecting means for connecting a general-purpose terminal;

image generating means for generating image data  
5 that conforms to the general-purpose terminal;

image distributing means for distributing the image data, which has been generated by said image generating means, to the general-purpose terminal via said connecting means;

10 audio converting means for converting format of audio data in order that the audio data may be communicated mutually between the general-purpose terminal and the plurality of communication terminals;  
and

15 audio distributing means for distributing the audio data, whose format has been converted by said audio converting means, to the communication terminals and/or general-purpose terminal.

SUBP3 43. A data communication system in which a plurality of  
20 communication terminals are connected via a data communication control apparatus and data communication is performed among said plurality of communication terminals, wherein said data communication control apparatus comprises:

25 connecting means for connecting a general-purpose terminal;

image generating means for generating image data  
that conforms to the general-purpose terminal;

image distributing means for distributing the image  
data, which has been generated by said image generating  
5 means, to the general-purpose terminal via said  
connecting means;

voice recognition means for recognizing voice data  
that has entered from the communication terminals and  
generating text data based upon this recognition; and

10 data distributing means for distributing the text  
data to the general-purpose terminal.

~~44~~ A data communication system in which a plurality of  
communication terminals are connected via a data  
communication control apparatus and data communication  
15 is performed among said plurality of communication  
terminals, wherein said data communication control  
apparatus comprises:

connecting means for connecting a general-purpose  
terminal;

20 image generating means for generating image data  
that conforms to the general-purpose terminal;

image distributing means for distributing the image  
data, which has been generated by said image generating  
means, to the general-purpose terminal via said

25 connecting means;

voice recognition means for recognizing first voice

data that has entered from the communication terminals and generating text data based upon this recognition;

data distributing means for distributing the text data to the general-purpose terminal;

5 voice synthesizing means for synthesizing second voice data based upon text data that has entered from the general-purpose terminal; and

audio distributing means for distributing the second voice data to the communication terminals.

10 ~~45.~~ A recording medium on which has been recorded program code of a control method in a data communication control apparatus for controlling data communication between a connected communication terminal and general-purpose terminal, said program code comprising at least:

15 code of an image generating step of generating image data that conforms to the general-purpose terminal;

code of an image distributing step of distributing the image data, which has been generated at said image  
20 generating step, to the general-purpose terminal;

code of a first audio distributing step of converting format of audio data that has entered from the general-purpose terminal and distributing the audio data to the communication terminal; and

25 code of a second audio distributing step of converting format of audio data that has entered from

the communication terminal and distributing the audio data to the general-purpose terminal.

46. A recording medium on which has been recorded program code of a control method in a data communication control apparatus for controlling data communication between a connected communication terminal and general-purpose terminal, said program code comprising at least:

code of an image generating step of generating image data that conforms to the general-purpose

terminal;

code of an image distributing step of distributing the image data, which has been generated at said image generating step, to the general-purpose terminal;

code of a voice recognition step of recognizing voice data that has entered from the communication terminal and generating text data based upon this recognition; and

code of a data distributing step of distributing the text data in real-time.

47. A recording medium on which has been recorded program code of a control method in a data communication control apparatus for controlling data communication between a connected communication terminal and general-purpose terminal, said program code comprising at least:

code of an image generating step of generating image data that conforms to the general-purpose

terminal;

code of an image distributing step of distributing the image data, which has been generated at said image generating step, to the general-purpose terminal;

5 code of a voice recognition step of recognizing first voice data that has entered from the communication terminal and generating text data based upon this recognition;

10 code of a data distributing step of distributing the text data to the general-purpose terminal;

code of a voice synthesizing step of synthesizing second voice data based upon text data that has entered from the general-purpose terminal; and

15 code of an audio distributing step of distributing the second voice data to the communication terminal.